Ordering number: EN2233B

Monolithic Linear IC

No.2333B

SANYO

LA4537M

Power Amplifier for 1.5V Headphone Stereos

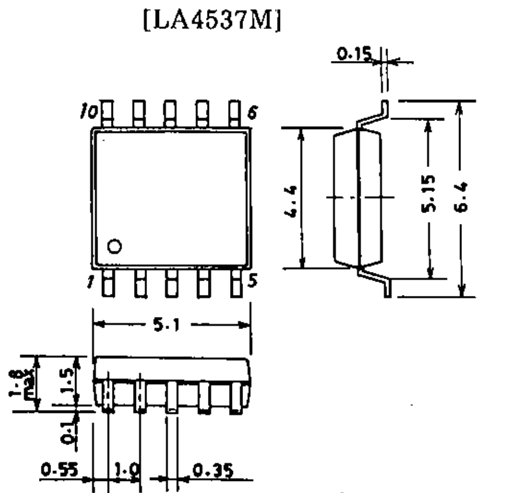
Features

- Low current consumption.
- 16Ω load drive capability.
- Excellent reduced voltage characteristics.
- Excellent power supply ripple rejection.
- Minimum number of external parts required (no input capacitor, feedback capacitor required).
- Less harmonic interference in radio band.
- On-chip power switch function, muting function.

Package Dimensions

(unit : mm)

3086A-MFP10S



Specifications

Maximum Ratings at Ta = 25°C

				Unit
Maximum Supply Voltage	V_{CC} max	Quiescent	4.5	V
Allowable Power Dissipation	Pd max		300	mW
Operating Temperature	Topr		−20 to +75	°C
Storage Temperature	Tstg		−40 to +125	°C

Operating Conditions at Ta = 25°C

			Unit
Recommended Supply Voltage	V_{CC}	1.5	V
Operating Voltage Range	V_{CC} op	0.9 to 4.0	V
Recommended Load Resistance	R_L	16 to 32	Ω

Operating Characteristics at Ta = 25°C, R_L = 16Ω, Rg = 600Ω, See specified Test Circuit.

			min	typ	max	Unit
Quiescent Current	Icco (1)	V_{CC} = 1.2V, quiescent		3.5	6.0	mA
	Icco (2)	V_{CC} = 2.5V, pin 10→GND		1.4	2.5	mA
	Icco (3)	V_{CC} = 2.5V, pin 1→GND			1.0	μA
Voltage Gain	VG	V_{CC} = 1.2V, f = 1kHz, V_O = −20dBm	28.5	30.0	31.5	dB
Voltage Gain Difference	ΔVG	V_{CC} = 1.2V, f = 1kHz, V_O = −20dBm			1.0	dB
Total Harmonic Distortion	THD	V_{CC} = 1.2V, f = 1kHz, P_O = 0.5mW		0.5	1.5	%
Output Power	P_O	V_{CC} = 1.5V, f = 1kHz, THD = 10%	5	8		mW
Crosstalk	CT	V_{CC} = 1.2V, f = 100Hz, Rg = 1kΩ, V_O = −20dB	40	45		dB
Ripple Rejection	SVRR	V_{CC} = 1.0V, f = 100Hz, Rg = 1kΩ, V_R = −30dBm, BPF = 100Hz	40	46		dB

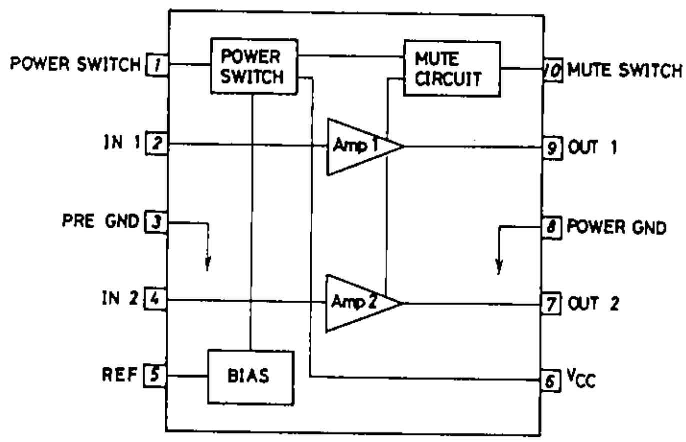
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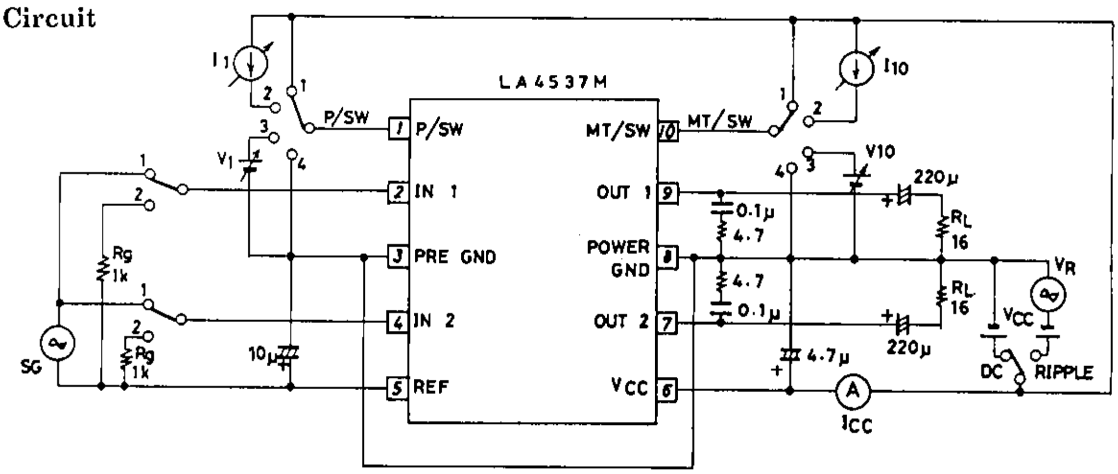
			min	typ	max	Unit
Output Noise Voltage	V_{NO}	V_{CC}=2.5V,Rg=1kΩ, BPF=20Hz to 20kHz		55	80	μV
Power ON Current Sensitivity	I_1 (on)	V_{CC}=0.85V,V5≧0.5V		0.1	1.0	μA
Power OFF Voltage Sensitivity	V_1 (off)	V_{CC}=0.85V,V5≦0.1V	0.5	0.6		V
Muting OFF Current Sensitivity	I_{10} (off)	V_{CC}=0.85V,V5≧0.5V		0.1	1.0	μA
Muting ON Voltage Sensitivity	V_{10} (on)	V_{CC}=0.85V,V5≦0.1V	0.5	0.6		V

Note) The quiescent current is respresented by the current flowing into pin 6. The respective maximum currents flowing into pin 1 and pin 10 are calculated by (pin voltage −0.5) / 16 [V/kΩ] and the total current increases by these current values.

Equivalent Circuit Block Diagram

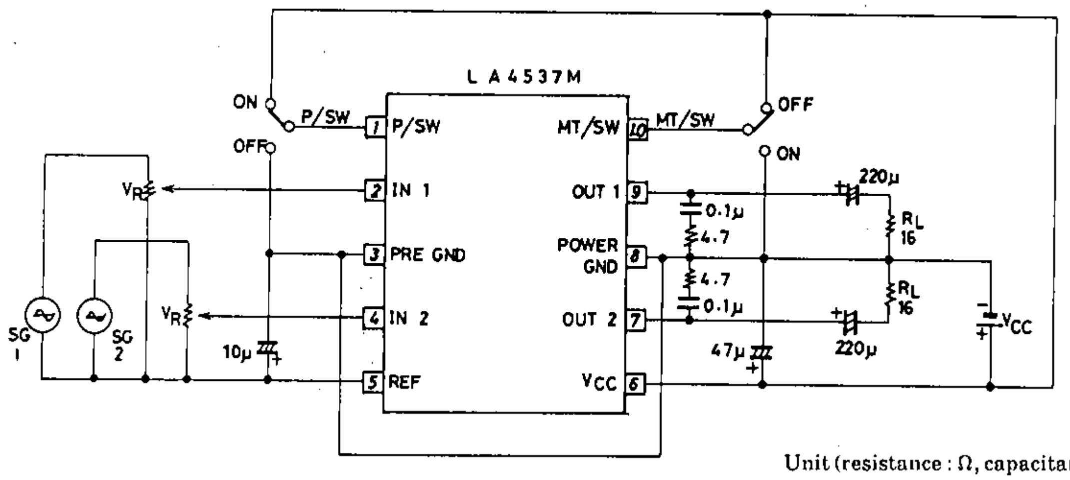


Test Circuit



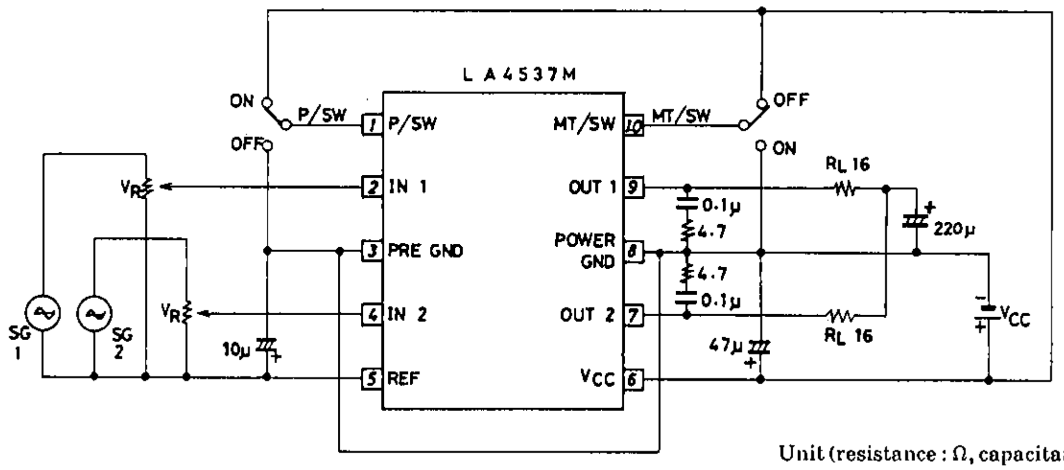
Unit (resistance : Ω, capacitance : F)

Sample Application Circuit 1
(Standard)



Unit (resistance : Ω, capacitance : F)

Sample Application Circuit 2
(Output capacitor shared)



Unit (resistance : Ω, capacitance : F)

This catalog provides information as of June, 1995. Specifications and information herein are subject to change without notice.